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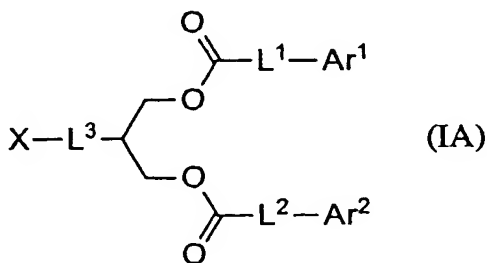
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IODINATED TRIGLYCERIDE ANALOGS



medium for X-ray radiography.

(57) Abstract: A compound represented by the following general formula (IA) or a salt thereof: wherein Ar₁ represents hydrogen atom or an aryl group having at least one iodine atom as a substituent; Ar₂ represents an aryl group having at least one iodine atom as a substituent; L₁ and L₂ independently represent a divalent bridging group of which main chain contains 6 or more carbon atoms; L₃ represents a single bond or a divalent bridging group of which main chain contains 1 to 6 carbon atoms and one oxygen atom; X represents a functional group containing at least one heteroatom, provided that, when L₃ is a single bond, X represents a functional group other than hydroxyl group. The compound can be used as a membrane component of liposomes, and the liposomes can be used as a contrast

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D265/30 C07C233/11 C07C69/734 A61K51/12 A61K51/04
A61K49/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BEILSTEIN Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 103 216 A (BAKAN DOUGLAS A ET AL) 15 August 2000 (2000-08-15) the whole document is pertinent, especially the compounds 2, 4-7 and their effects outlined in particular in examples 7 and 9-10. claims; figures; examples; tables	1-4, 15-28
X	US 4 873 075 A (LONGINO MARC A ET AL) 10 October 1989 (1989-10-10) cited in the application column 1, line 10 -column 5, line 68; claims; figures 2-5; examples 5-9,15 -/-	1-4, 15-28

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

6 August 2003

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International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WEICHERT J P ET AL: "POLYIODINATED TRIGLYCERIDE ANALOGS AS POTENTIAL COMPUTED TOMOGRAPHY IMAGING AGENTS FOR THE LIVER" JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 38, no. 4, 17 February 1995 (1995-02-17), pages 636-646, XP001057012 ISSN: 0022-2623 Compounds 25- 30 in Tables 1-5, Scheme 1, pages 644-645	1-4, 15-28
X	J. P. WEICHERT ET AL.: "Combined hepatocyte-selective and blood-pool contrast agents for the CT-detection of experimental liver tumors in rabbits." RADIOLOGY, vol. 216, no. 3, 2000, pages 865-871, XP002244766 page 865, paragraphs 2,3 page 866, column 1, paragraph 1 page 866, column 2, paragraphs 2,3 page 866, column 3, paragraphs 1,2	1-4, 15-28
X	K. BHARDWAJ ET AL.: "Identification, purification and characterization of a thermally stable lipase from rice bran. a new member of the (phospho)lipase family." PLANT PHYSIOLOGY, vol. 127, no. 4, 2001, pages 1728-1738, XP002244767 page 1736, right-hand column, experimental section concerning the synthetical work.	1,3
X	J. P. WEICHERT ET AL.: "Potential tumor- or organ-imaging agents." JOURNAL OF MEDICINAL CHEMISTRY, vol. 29, no. 12, 1986, pages 2457-2465, XP002244768 scheme I-II, Tables I-IV; pages 2463-2464: experimental work for the compounds 4b-4e and 5b-5e. page 2457, right-hand column -page 2461, right-hand column --- -/--	1-4, 15-28

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; 1986 J. P. WEICHERT ET AL.: "Polyiodinated triglyceride analogs as potential hepatic imaging agents" Database accession no. 1986:530036 XP002244769 abstract & BILLINGHURST, MERVYN WARREN: "Proc. Int. Symp. Radiopharmacol" CURR. APPL. RADIOPHARMACOL., 4TH EDITION, 1985, pages 148-156, Toronto</p>	1-4, 15-28
X	<p>DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; 2000 J. P. WEICHERT ET AL.: "Polyiodinated triglyceride lipid emulsions for use as hepatoselective contrast agents in CT: effects of physicochemical properties on biodistribution and imaging profiles" Database accession no. 2000:205019 XP002244770 & INVESTIGATIVE RADIOLOGY, vol. 35, no. 3, 2000, pages 158-169,</p>	1-4, 15-28
X	<p>DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; 1992 SCHWENDNER S.W. ET AL.: "Potential organ or tumor imaging agents" Database accession no. 1992:587410 XP002244771 abstract & NUCLEAR MEDICINE AND BIOLOGY, vol. 19, no. 6, 1992, pages 639-650,</p>	1,3, 15-28
X	<p>DATABASE MEDLINE 'Online! US NATIONAL LIBRARY OF MEDICINE (NLM), BETHESDA, MD, US; 1993 FF KNAPP ET AL.: "Site-specific stable radioiodination of 1,2-Pal-3-IPPA: an agent for the potential clinical evaluation of pancreatic insufficiency by urine analysis" Database accession no. 93286735 XP002244772 abstract & JOURNAL OF NUCLEAR MEDICINE, vol. 34, no. 6, June 1993 (1993-06), pages 946-952,</p>	1,3

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	M-L ALCARAZ ET AL.: "Synthesis and properties of photoactivatable phospholipid derivatives designed to probe the membrane-associate domains of proteins" JOURNAL OF ORGANIC CHEMISTRY, vol. 61, 1996, pages 192-201, XP002250373 scheme 4, page 194, compound 21 and its synthesis on page 200	11,15, 16,23
X	B. CORSICO ET AL.: "Evidence for a central apolipoprotein A-I domain loosely bound to lipids in discoidal lipoproteins that is capable of penetrating the bilayer of phospholipid vesicles" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 276, no. 20, 2001, pages 16978-16985, XP002250374 page 16979, right-hand column figure 1	11,15, 16,23
X	Y. OGAWA ET AL.: "Regioselective photolabeling of glycoprotein A in membranes" CHEM. EUR. JOURNAL, vol. 8, no. 8, 2002, pages 1843-1849, XP002250375 scheme 1, structure 1	11,15, 16,23
A	EP 0 037 583 A (KSV CHEMICALS OY) 14 October 1981 (1981-10-14) page 5 -page 6; claim 9; example 3	7-10

INTERNATIONAL SEARCH REPORT

International application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

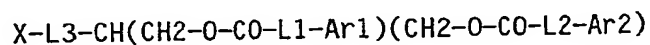
- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

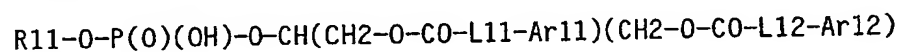
1. Claims: claims 1-6, 15 (part)-28 (part)

Iodinated triglyceride analogs as potential computed tomography imaging agents characterized by the following formula (IA):



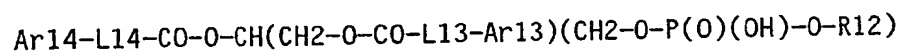
2. Claims: claims 7-10, 15 (part) - 28 (part)

Iodinated phosphotriglyceride analogs as potential computed tomography imaging agents characterized by the following formula (IB):



3. Claims: claims 11-14, 15 (part) - 28 (part)

Iodinated phosphotriglyceride analogs as potential computed tomography imaging agents characterized by the following formula (IIB):



INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6103216	A	15-08-2000	US 5851510 A	22-12-1998
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			CA 2190509 A1	23-11-1995
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